Climate Action Plan Community Workshop

August 22, 2013

CITY OF CARLSBAD
Envision Carlsbad

Workshop Purpose

- Introduce the Climate Action Plan
- Present current greenhouse gas inventory and future forecasts
- Obtain your perspective on how the city can reduce greenhouse gas emissions to meet state targets

CITY OF CARLSBAD
Envision Carlsbad

Workshop Agenda

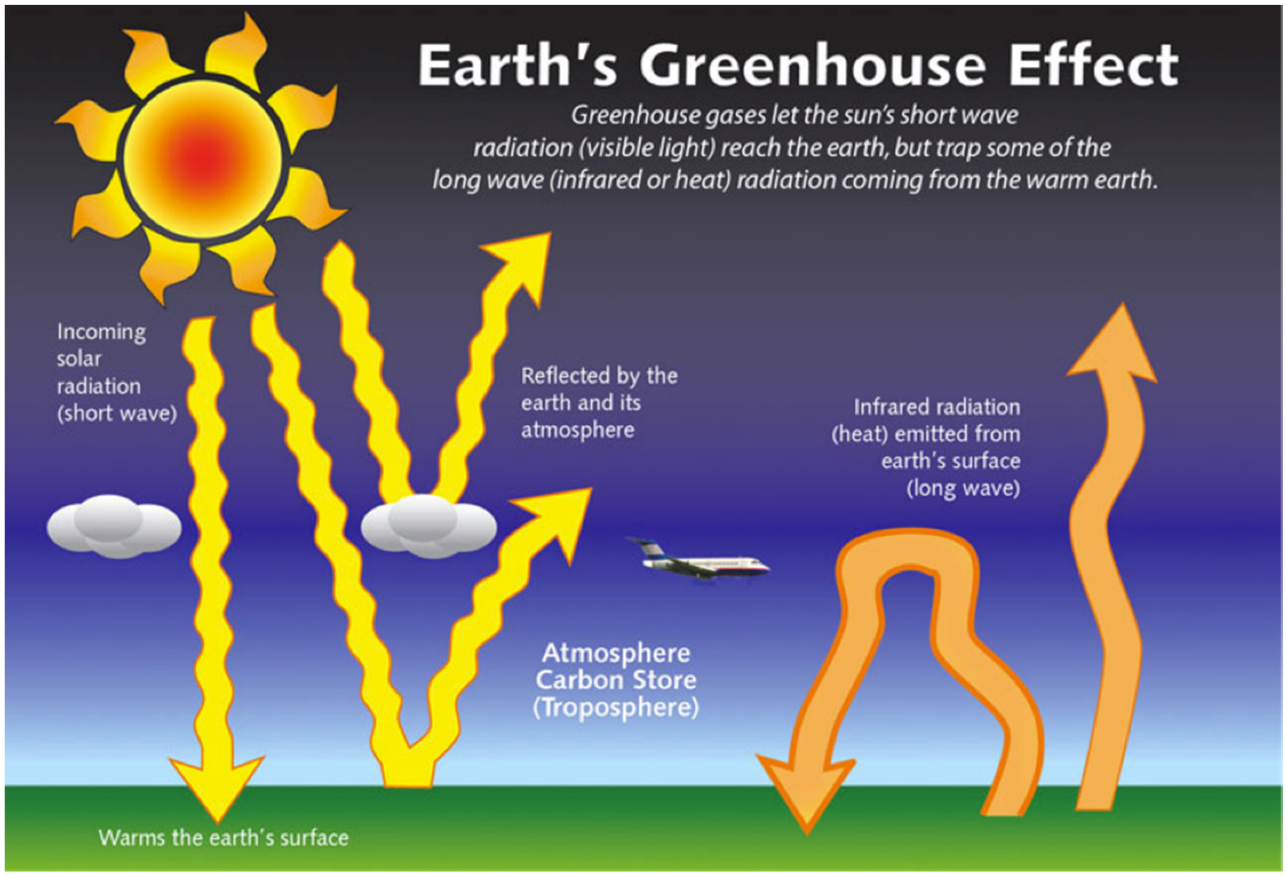
1. Presentation
   A. Overview of the Climate Action Plan (CAP)
   B. Current Carlsbad greenhouse gas emissions
   C. California emission targets
   D. How can Carlsbad meet the emissions targets?
2. Open house/provide feedback
3. Next steps

CITY OF CARLSBAD
Envision Carlsbad

A Overview of the Climate Action Plan (CAP)

CITY OF CARLSBAD
Envision Carlsbad

What are Greenhouse Gases (GHGs)?



- Water vapor, carbon dioxide (CO_2), methane, nitrous oxide, ozone
- Measure in CO_2 equivalents

CITY OF CARLSBAD
Envision Carlsbad

What is a Climate Action Plan (CAP)?

- Cohesive strategy for reducing Carlsbad's GHG emissions in accordance with state law
- Contains goals, policies and actions for Carlsbad to reduce GHG emissions and combat climate change
- Allows the City to streamline environmental review for future projects

What will be in the CAP?

- GHG emissions Inventory
  - Community and local government operations
  - 2005 and 2011
- Forecast of future emissions
- GHG reduction strategies

CITY OF CARLSBAD
Envision Carlsbad

B Current Carlsbad GHG Emissions

CITY OF CARLSBAD
Envision Carlsbad

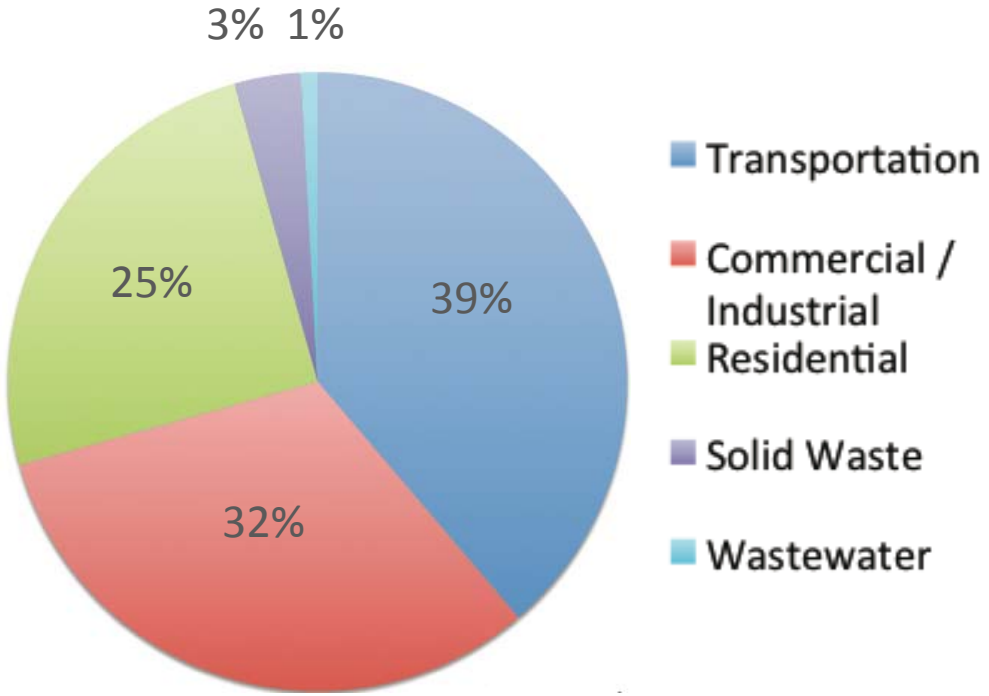
Inventory Methodology

- First inventory in 2005, updated with 2011 information
- Tallies GHG emissions from the following sectors:
  - Transportation
  - Commercial/Industrial
  - Residential
  - Solid Waste
  - Wastewater

Inventory Results by Sector

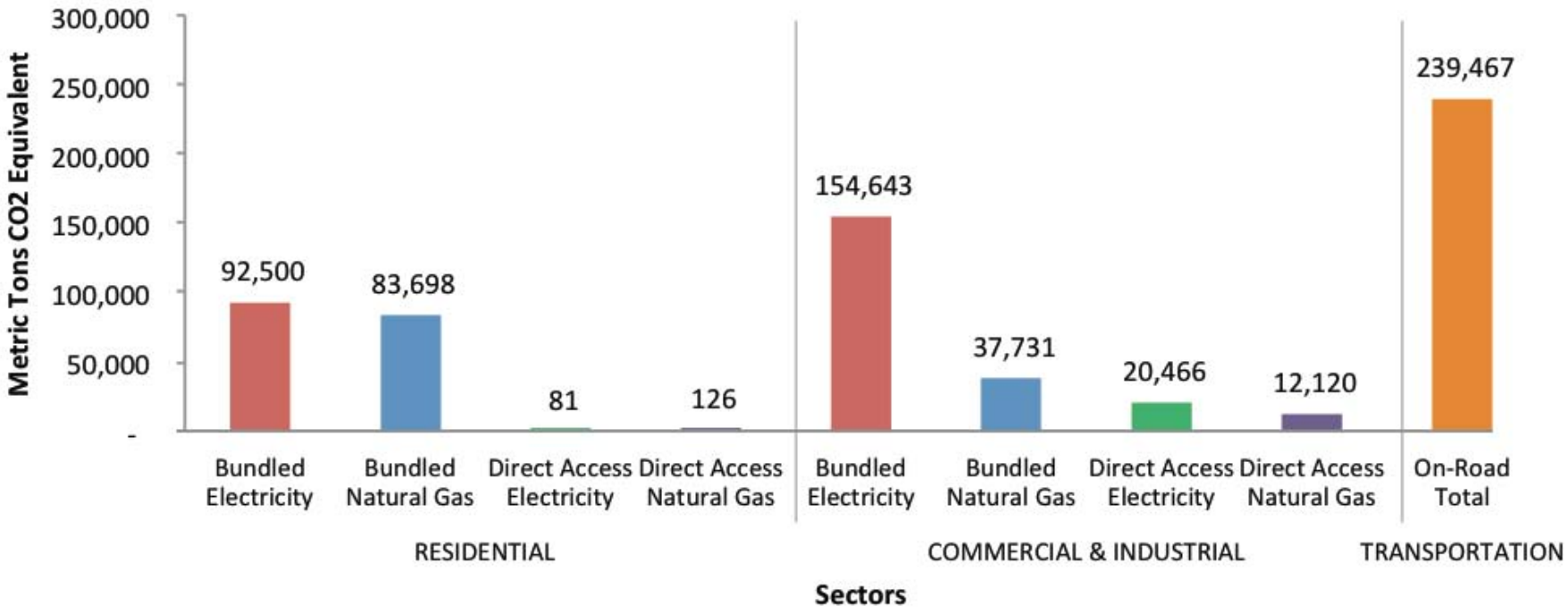
SECTOR	2011 EMISSIONS (METRIC TONS CO_2 EQUIVALENTS)
Transportation: Vehicle & Public Transportation	273,745*
Commercial & Industrial: Buildings & Manufacturing	224,960
Residential: Building Energy Use	176,405
Solid Waste: Methane & Transport	24,317
Wastewater: Treatment & COnveyance	6,317
TOTAL	705,744

* Excludes emissions from through trips neither originating nor ending in Carlsbad



Local government emissions account for 8,205 $MTCO_2e$ (about 1.2 percent) of the citywide total.

Emission Sources for the Three Largest Sectors

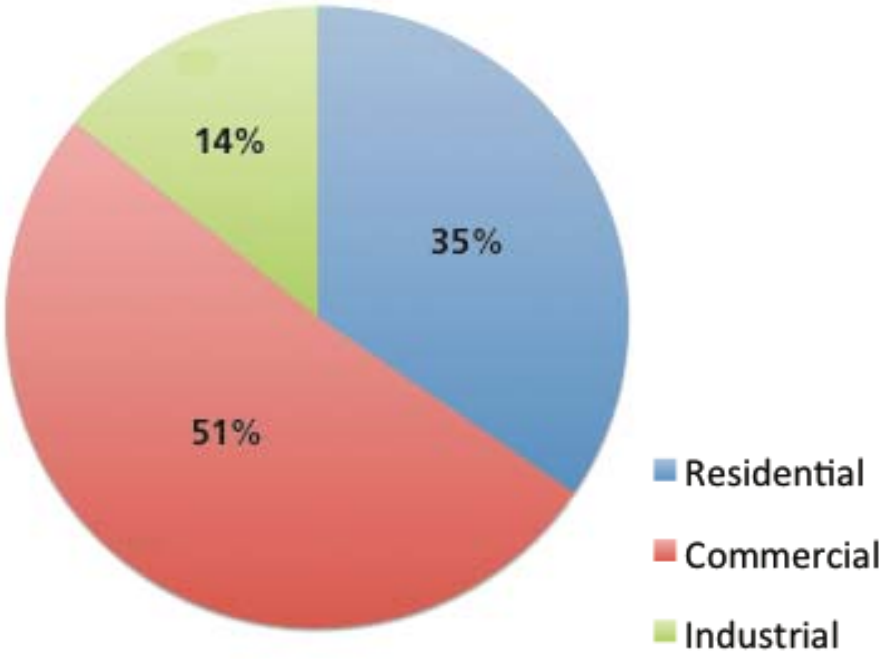


CITY OF CARLSBAD
Envision Carlsbad

Emission Sources by Type: Electricity

- Electricity emissions are 38% of total

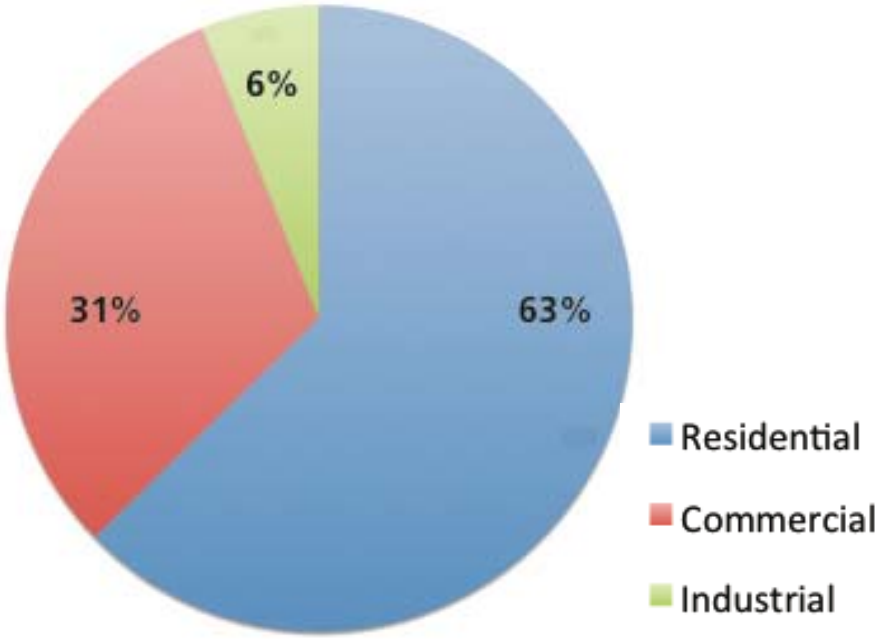
ELECTRICITY EMISSIONS BY CATEGORY	
CATEGORY	2011 EMISSIONS (METRIC TONS CO_2 EQUIVALENTS)
Residential	92,581
Commercial	137,015
Industrial	38,093



Emission Sources by Type: Natural Gas

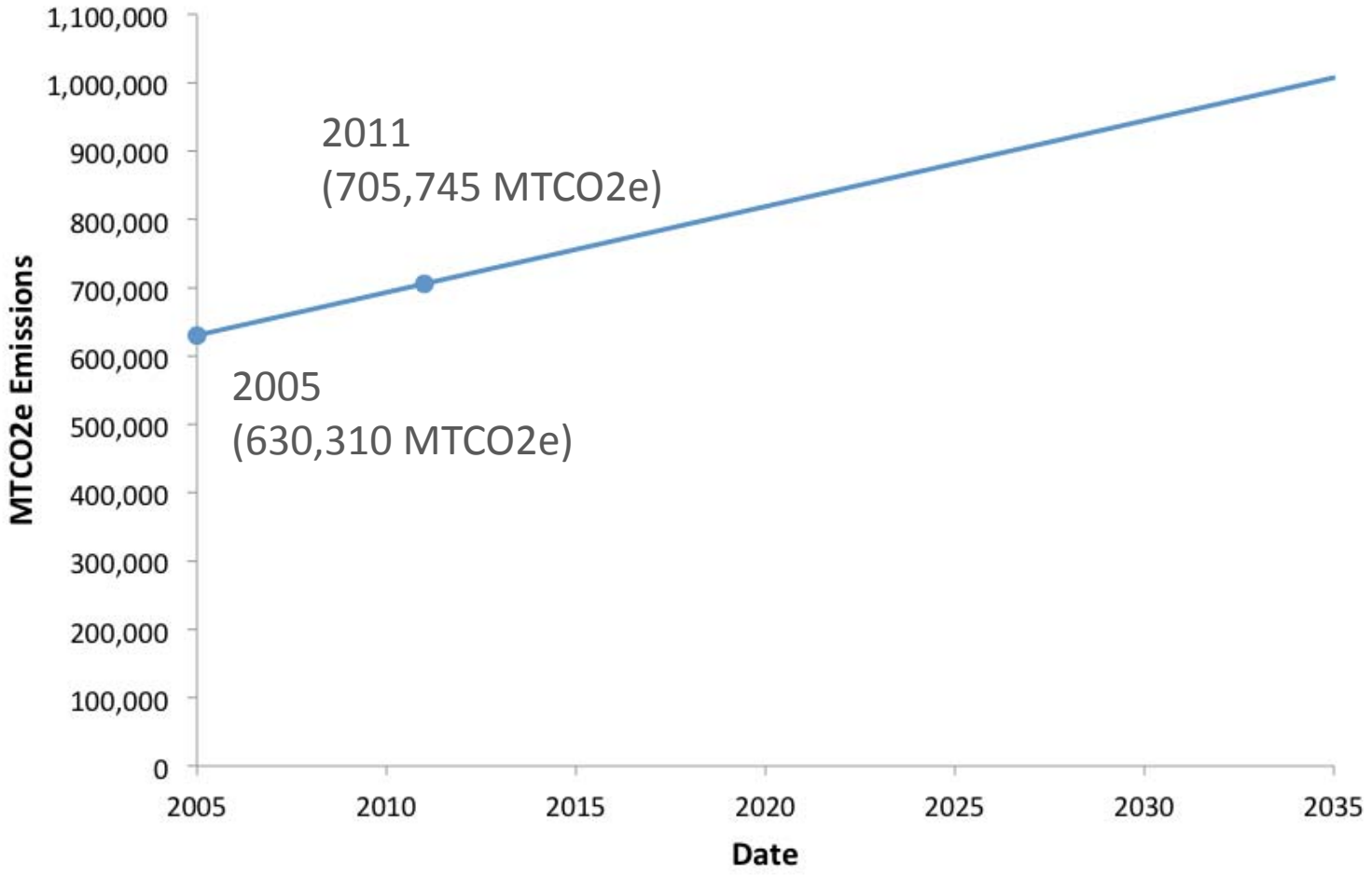
- Natural Gas emissions are 19% of total

NATURAL GAS EMISSIONS BY CATEGORY	
CATEGORY	2011 EMISSIONS (METRIC TONS CO_2 EQUIVALENTS)
Residential	83,824
Commercial	41,697
Industrial	8,154



CITY OF CARLSBAD
Envision Carlsbad

Business as Usual (BAU) Forecast



CITY OF CARLSBAD
Envision Carlsbad

C California Emission Targets

CITY OF CARLSBAD
Envision Carlsbad

Emission Targets

- 2005 serves as the baseline year
- Emission targets from:
  - AB 32 (Global Warming Solutions Act):

    1990 emissions by 2020.

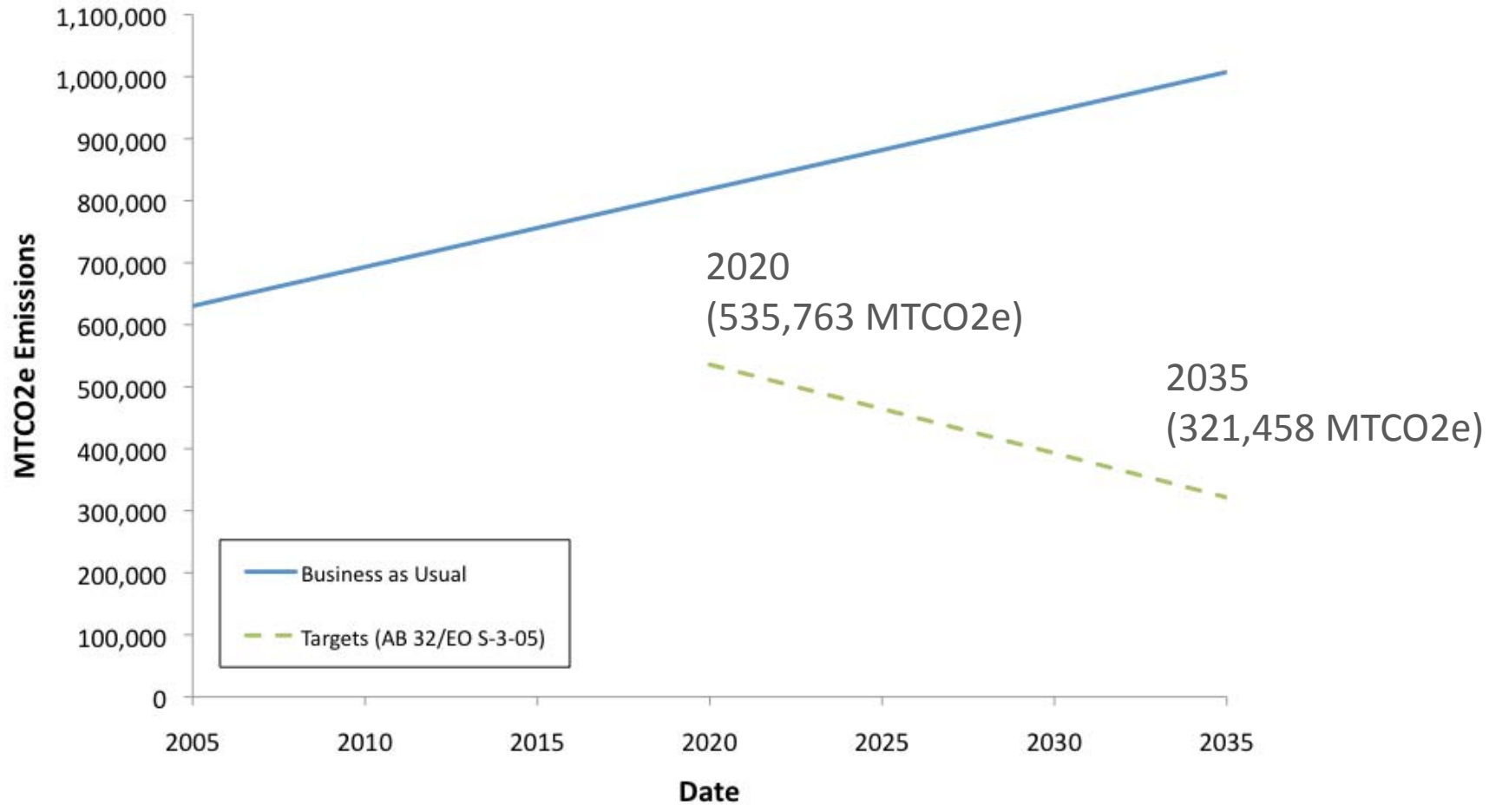
    2020 Target: 535,763 MTCO2e
  - Executive Order S-3-05:

    80 percent below 2020 emissions by 2050

    2035 Target: 321,458 MTCO2e

CITY OF CARLSBAD
Envision Carlsbad

Emissions Targets



CITY OF CARLSBAD
Envision Carlsbad

D How Can Carlsbad Achieve Emissions Targets

CITY OF CARLSBAD
Envision Carlsbad

How Can We Reach the Emissions Targets?

- State and Federal Policies and Actions
- Draft General Plan GHG Reduction Policies and Actions
- "Emissions Gap": CAP GHG Reduction Strategies
  - To discuss later in the workshop

CITY OF CARLSBAD
Envision Carlsbad

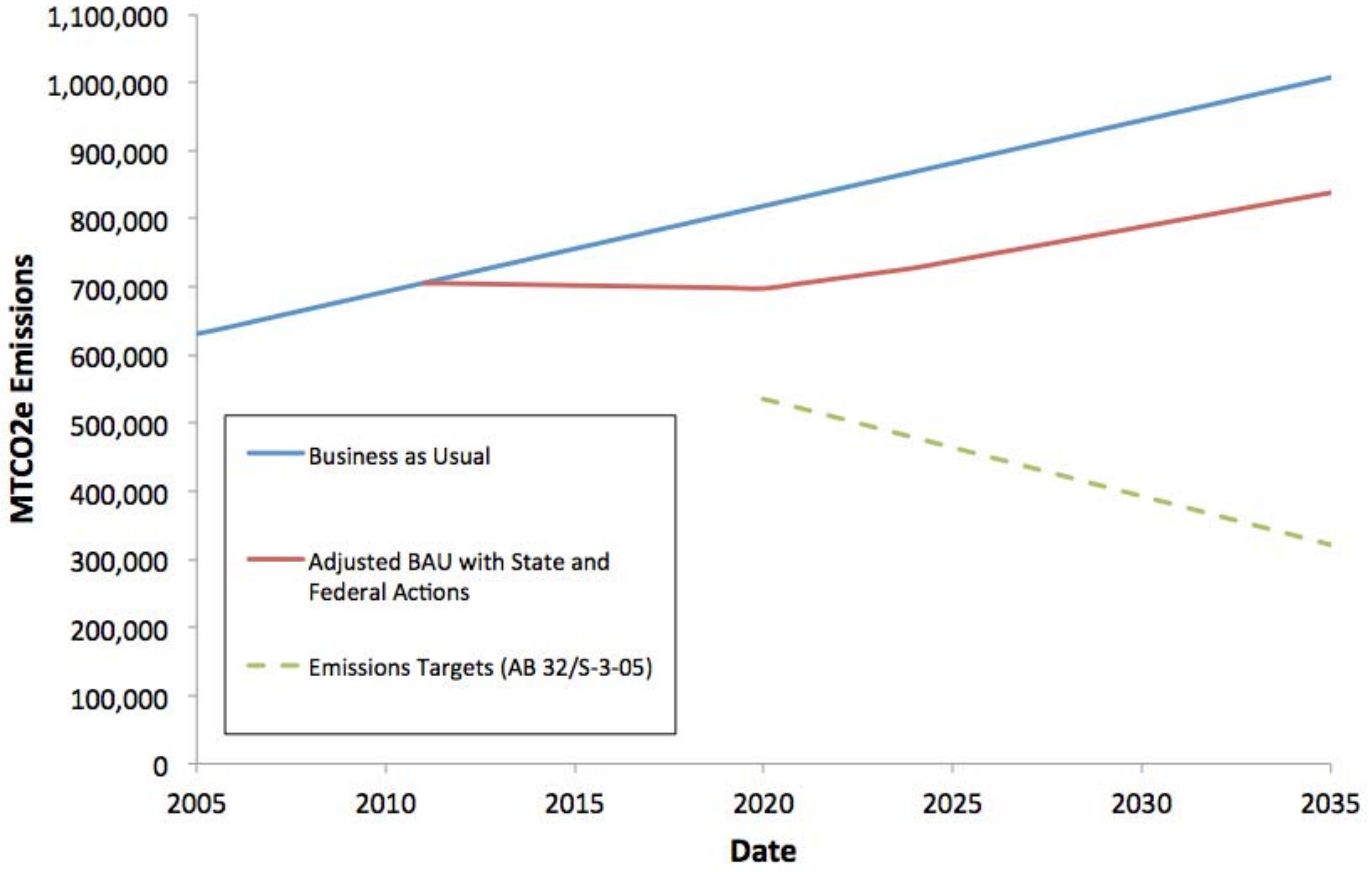
State, Federal GHG Reductions

Measure	Description	2035 Reduction (MTCO2e)
Renewable Portfolio Standard	33% renewable energy production by 2020	36,000
Pavley I	Federal fuel efficiency standards for vehicle models through 2016	48,000
Low Carbon Fuel Standard	Reduce GHG intensity of fuels 10 percent through 2020	15,000
California Title 24	Green building code efficiency standards	80,000

and…

Rising Fuel Prices	Rising gasoline prices will reduce vehicle miles traveled	70,000

BAU and Adjusted BAU (with State and Federal Reductions)

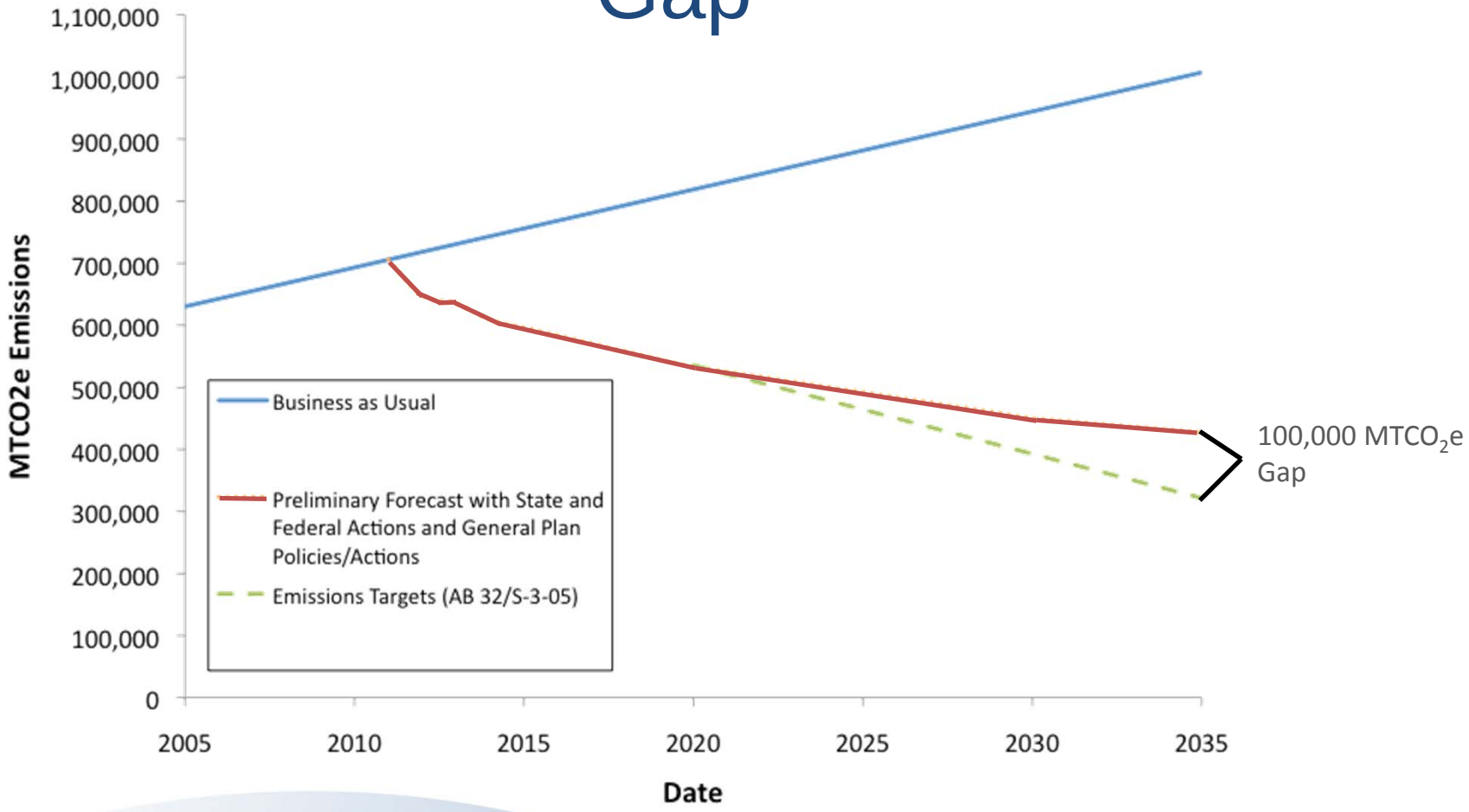


CITY OF CARLSBAD
Envision Carlsbad

General Plan GHG Reductions

Measure	Description
Land Use Plan	Compact/infill, mixed-use, transit-oriented; protect open space
Bikeway System	Construction of new bikeways (6.5 miles Class I, 2.8 Class II, 4.2 Class Iii); bicycle parking enhancements
Pedestrian Improvements	Improved sidewalks, crosswalks, trails; closing gaps; pedestrian mode priority
Traffic Calming	Various measures such as curb extensions (bulb-outs); enhanced pedestrian crossings; residential traffic calming
Parking Facilities and Policies	Flexible standards; shared parking; unbundled parking; parking demand management; in-lieu fee; transit = parking
System Improvements	Street extensions; citywide traffic signalization

Preliminary Forecast & Emissions "Gap"



CITY OF CARLSBAD
Envision Carlsbad

Candidate CAP GHG Reduction Strategies

Measure	Strategy and Actions by 2035	GHG Reduction Potential	Cost to City	Private Cost
A	Install residential photovoltaic (PV) systems on an additional (to already existing) 5 percent of homes [10 percent already projected to happen]	Medium	Low	Low to Medium
B	Install commercial and industrial PV systems on an additional (to already existing)) 5 percent of homes [10 percent already projected to happen]	Medium	Low	Low to Medium

Low: up to 1,000 MT, Medium: 1,000 MT to 15,000 MT, High: above 15,000 MT

Candidate CAP GHG Reduction Strategies (continued)

Measure	Strategy and Actions by 2035	GHG Reduction Potential	Cost to City	Private Cost
C	Promote building cogeneration for large commercial and industrial facilities, or the use of building power stations to simultaneously generate electricity and heat.	Medium	Low	Medium
D	Encourage single-family residential efficiency retrofits with goal of 40 percent energy reduction in 20 to 30 percent of homes citywide	Medium	Low	Medium

Low: up to 1,000 MT, Medium: 1,000 MT to 15,000 MT, High: above 15,000 MT

Candidate CAP GHG Reduction Strategies (continued)

Measure	Strategy and Actions by 2035	GHG Reduction Potential	Cost to City	Private Cost
E	Encourage multi-family residential efficiency retrofits with goal of 50 percent reduction in 20 to 30 percent of multi-family homes citywide	Low	Low	Medium
F	Encourage commercial efficiency retrofits with goal of 40 percent energy reduction in 20 to 30 percent of commercial buildings	High	Low	Medium to High

Low: up to 1,000 MT, Medium: 1,000 MT to 15,000 MT, High: above 15,000 MT

Candidate CAP GHG Reduction Strategies (continued)

Measure	Strategy and Actions by 2035	GHG Reduction Potential	Cost to City	Private Cost
G	Promote commercial commissioning, or improving building operations, with goal of 40 percent energy reduction in 20 to 30 percent of commercial buildings	High	Low	Medium
H	Implementation of CALGreen (the statewide green building code) for new construction, optional adoption of higher efficiency Tier and Tier 2 standards	Low (CalGreen or Tier 1) to Medium (Tier 2)	Low	Low to Medium (Tier 1) to High (Tier 2)

Low: up to 1,000 MT, Medium: 1,000 MT to 15,000 MT, High: above 15,000 MT

Candidate CAP GHG Reduction Strategies (continued)

Measure	Strategy and Actions by 2035	GHG Reduction Potential	Cost to City	Private Cost
I	New construction residential and commercial solar water heater installation in 20 to 30 percent of new homes and businesses.	Medium	Low	Medium to High
J	Increase the amount of electric vehicle travel from 15 percent (already projected in modeling) to 25 percent of vehicle miles traveled by electric vehicles through mechanisms like city providing preferential electric vehicle parking, charging stations, etc.	High	Low to Medium	Optional

Low: up to 1,000 MT, Medium: 1,000 MT to 15,000 MT, High: above 15,000 MT

Candidate CAP GHG Reduction Strategies (continued)

Measure	Strategy and Actions by 2035	GHG Reduction Potential	Cost to City	Private Cost
K	Develop more citywide renewable energy projects, such as hydroelectric projects or PV systems on city buildings, producing the equivalent amount of energy to power 200 to 500 homes.	Medium	Medium to High	None
L	Reduce the GHG intensity of water supply conveyance, treatment and delivery	Medium	Medium	None

Low: up to 1,000 MT, Medium: 1,000 MT to 15,000 MT, High: above 15,000 MT

Candidate CAP GHG Reduction Strategies (continued)

Measure	Strategy and Actions by 2035	GHG Reduction Potential	Cost to City	Private Cost
M	Encourage the installation of greywater and rainwater collection systems in up to 20 percent of homes	Low	Low	Optional

Low: up to 1,000 MT, Medium: 1,000 MT to 15,000 MT, High: above 15,000 MT

Open House

- Ask Staff Questions
- Fill out feedback form:
  - Which strategies are most desirable/feasible?
  - How could the City encourage their implementation?

MEASURE	GHG REDUCTION STRATEGY AND ACTIONS BY 2035	GHG REDUCTION POTENTIAL[A]	COST TO CITY	PRIVATE COST	LEVEL OF SUPPORT & REASONING
A	**Install residential photovoltaic (PV) systems** on an additional (to already existing) 10 to15 percent of homes. **GOAL:** An additional 10 percent of homes are projected by SDG&E to have PV systems; reaching a total of 15 percent would require additional encouragement/incentives/ requirements.	Medium	Low	Low to Medium	☐ High ☐ Low ☐ Medium ☐ None
		Comment:			
B	**Install commercial and industrial PV systems** on an additional (to already existing) 10 to 15 percent of businesses.	Medium	Low	Low to Medium	☐ High ☐ Low ☐ Medium ☐ None

CITY OF CARLSBAD
Envision Carlsbad

Next Steps

- Collect feedback
- Draft CAP
- Public review draft documents
  - General Plan (Sept)
  - CAP (Oct)
  - EIR (Oct)
- Workshops/presentations (Nov-Dec)
- Hearings (Jan ‘14)

CITY OF CARLSBAD
Envision Carlsbad

Climate Action Plan Community Workshop

August 22, 2013

CITY OF CARLSBAD
Envision Carlsbad